PATENT
5858-01400 SR 2007/17 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Serial No. 10/674,877
Confirmation No. 9209

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08/26/2009 /Pamela Gerik/
Date Pamela Gerik

APPEAL BRIEF

Sir/Madam:

Appellant hereby appeals to the Board of Patent Appeals and Interferences from the rejection of pending claims 2 and 4-12 and respectfully requests that this appeal be considered by the Board.

I. REAL PARTY IN INTEREST

The subject application is owned by Schleifring und Apparatebau GmbH as evidenced by the document recorded at reel 015038 and frame 0802.

II. RELATED APPEALS AND INTERFERENCES

No appeals, interferences, or judicial proceedings are known which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 2 and 4-12 stand rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

Amendments to the claims were filed July 2, 2009 to place the claims in better condition for appeal. The Appendix hereto reflects the current state of the claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 2 recites a system for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints (Specification -- pg. 3, lines 1-15; pg. 8, lines 1-8; Fig. 1), wherein said first unit comprises: a data source for generating a serial data stream (Specification -- pg. 3, lines 16-17); a transmitter for generating electrical signals from said serial data stream from said data source (Specification -- pg. 3, lines 17-19); a controller coupled between said data source and said transmitter for controlling said serial data stream by converting a data rate or data package size of said data source into a desired value of data rate or data package size (Specification -- pg. 3, line 25 – pg. 4, line 6; pg. 5, lines 26-31), wherein said controller comprises: means for storing data from the serial data stream (Specification -- pg. 6, lines 1-17); and means for outputting the stored data to said transmitter in accordance with the desired value of data rate or data package size (Specification -- pg. 6, lines 1-17); and a transmitter conductor array for conducting said electrical signals generated by said transmitter (Specification -- pg. 3, lines 17-19); wherein said second unit (Specification -- pg. 8, lines 1-8; Fig. 1) comprises: a receiving antenna for tapping electrical signals in the near field of said transmitter conductor array (Specification -- pg. 3, lines 19-21); a receiver for receiving the signals tapped by said receiving antenna (Specification -- pg. 3, lines 19-21); and a data sink for subsequent processing of the signals received by said receiver (Specification -- pg. 3, lines 19-21).

Dependent claim 7 recites that the system according to claim 2 wherein the system is self-learning and adapts itself dynamically to respective conditions of operation (Specification -- pg. 4, lines 4-6; pg. 5, lines 20-25; pg. 7, lines 1-3).

Independent claim 8 recites a method of broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints (Specification -- pg. 3, lines 1-15; pg. 8, lines 1-8; Fig. 1), said method comprising: generating a serial data stream from a data source on said first unit (Specification -- pg. 3, lines 16-17); generating electrical signals from said serial data stream with a transmitter on said first unit (Specification -- pg. 3, lines 17-19); controlling said serial data stream, with a controller on said first unit, by storing data from the serial data stream and signaling a desired value of data rate or data package size to said data source or said transmitter (Specification -- pg. 3, line 25 – pg. 4, line 6; pg. 5, lines 26-31); conducting said electrical signals generated by said transmitter with a transmitter conductor array on the first unit (Specification -- pg. 3, lines 17-19); tapping electrical signals in the near field of said transmitter conductor array with a receiving antenna on said second unit (Specification -- pg. 3, lines 19-21); receiving the signals tapped by said receiving antenna at a receiver on said second unit (Specification -- pg. 3, lines 19-21); and processing the signals received by said receiver in a data sink on said second unit (Specification -- pg. 3, lines 19-21).

Dependent claim 12 recites the system according to claim 2, further comprising a decoder coupled to or included within said receiver for converting a data rate or data package size of the signals received by said receiver into the data rate or data package size generated by said data source (Specification -- pg. 4, lines 11-14).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 2, 6-8, and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,264,795 to Rider (hereinafter "Rider").

2. Claims 4 and 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider in view of U.S. Patent No. 5,437,057 to Richley et al. (hereinafter "Richley") and U.S. Patent No. 6,611,776 to Waters et al. (hereinafter "Waters").

3. Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider in view of Richley and U.S. Patent No. 5,914,959 to Marchetto et al. (hereinafter "Marchetto").

VII. ARGUMENT

The contentions of the Appellant with respect to the ground of rejection presented for review, and the basis thereof, with citations of the statutes, regulations, authorities, and parts of the record relied upon are presented herein for consideration by the Board. Details as to why the rejections cannot be sustained are set forth below.

1. Rejection of Claims 2, 6-8, and 12

Claims 2, 6-8, and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rider. The standard for "anticipation" is one of fairly strict identity. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art of reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131. Furthermore, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, as arranged in the claim. *W.L. Gore & Assocs. V. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Using these standards, Appellants submit the cited art fails to disclose each and every element of the currently pending claims, some distinctive features of which are set forth in more detail below.

Rider does not disclose a controller that converts a data rate or data package size into a desired value of data rate or data package size. Independent claim 2 describes a first unit having a controller that is coupled between a data source and a transmitter for controlling a serial data stream sent from the data source. That controller can convert a data rate or data

package size of the serial data stream from the data source into a desired value of data rate or data package size.

Contrary to claim 2, Rider discloses a first unit 100 as an aboveground transmitter (Rider -- col. 8, lines 50-52; Fig. 5). The alleged first unit 100 contains a transmitter that can impart a tuned frequency or TX SIGNAL from an output circuit/transmitter to either an antenna 190 or a connector 180 (Rider -- col. 8, lines 50-68; Fig. 8). Because Rider describes an aboveground locator system, it is imperative that the locator system of Rider be capable of coupling separate and distinct frequencies upon one of possibly multiple lines in order to distinguish and locate one underground from that of another (Rider -- col. 5, line 8 – col. 6, line 17). In order to impute different frequencies from the transmitter circuit 170 onto either antenna 190 or connector 180, a frequency synthesizer 150 is used. Frequency synthesizer 150 not only produces the tuned TX FREQ of the synthesized frequency carrier signal, but also transmits a filter clock to which a filter 160 is used to remove unwanted harmonics (Rider -- col. 9, line 54 – col. 10, line 2; Fig. 6). Importantly, however, the alleged controller or processor circuit 110 in Rider controls the frequency output from frequency synthesizer 150 (Rider -- col. 9, lines 54-55; Fig. 6). The alleged serial input is derived from an input connector 145 that can be connected to, for example, a personal computer (Rider -- col. 9, lines 32-36).

The serial input upon the SCI of processor 110 does not have a data rate or data package size that is converted to a desired value of data rate or data package size as recited in claim 2. In fact, there can be no conversion to a desired value of data rate or data package size since the only output from processor 110 is that of a command to a frequency synthesizer 150, and the only output from frequency synthesizer 150 to the alleged transmitter 170 is a <u>square-wave</u> (Rider -- col. 12, lines 19-22). The frequency of a square-wave can be changed depending on which underground line is to be detected or, alternatively, the frequency can be changed to avoid interference from underground noise sources. Importantly, however, converting the frequency of a square-wave is in no way equivalent to converting a data rate or data package size. Not only does Rider never mention change in data rate or data package size, but it would be <u>impossible</u> to change a data rate or data package size unless data transmission were triggered by the edges of the square-wave, which is clearly not taught by Rider. Specifically, Rider only mentions use of

the square-wave that will then be converted to a sine-wave for frequency detection purposes only (Rider -- col. 12, lines 23-26). Simply put, a square-wave does not equate to change in data rate or data package size and, specifically, to that of a desired data rate or data package size as set forth in claim 2. Furthermore, a frequency synthesizer is not equivalent to a controller that converts data rate or data package size as recited in claim 2.

Rider does not disclose means for outputting stored data from a serial data stream to the transmitter. Independent claim 2 recites a controller having means for storing data from an incoming serial data stream. The controller also has means for outputting the stored data to the transmitter in accordance with the desired value of data rate or data package size.

The final Office Action points to the alleged controller 110 containing a storage means 111 or ROM/RAM (final Office Action -- pp. 3-4). Nowhere does the Office Action allege that the ROM/RAM stores serial input from, for example, a personal computer coupled to SCI and then outputting that stored data to the alleged transmitter 170. Instead, the only signal output to the alleged transmitter 170 is TX SIGNAL from filter 160, which is the synthesized frequency from synthesizer 150. The TX SIGNAL is not the stored serial input from input connector 145. Instead, TX SIGNAL is only the signal that originates from synthesizer 150. Absent any disclosure whatsoever for outputting stored data of a serial input upon alleged controller 110, Rider cannot anticipate this limitation of claim 2.

Rider does not disclose a system that is self-learning and adapts itself dynamically to conditions of operation. Dependent claim 7 recites that the system of independent claim 2 is self-learning and adapts itself dynamically to respective conditions of operation.

The final Office Action points to column 25, lines 7-40 of Rider as describing this limitation of dependent claim 7 (final Office Action -- pg. 5). However, there is no mention of the subterranean detection system of Rider being capable of self-learning or that it can adapt itself dynamically to conditions of operation. In fact, the specified portion of Rider only mentions a microcontroller can coordinate and control functions of the transmitter (Rider -- col. 25, lines 14-15), and that the microcontroller instruction can occur at predetermined intervals

(Rider -- col. 25, lines 57-64). Nowhere in Rider is there any feedback arrangement illustrated or that the transmission line or transmitted data can be monitored, and from that monitoring a desired value determined and learned, and that self-learning then applied to dynamically adjust the conditions of the system operation as recited in present claim 7.

Rider does not disclose controlling a serial data stream from a data source by storing data from the serial data stream and signaling a desired value of data rate or data package size to said data source or said data transmitter. Independent claim 8 recites a method for controlling a serial data stream. The serial data stream is one that arises from a data source. The serial data stream is controlled by storing data from the serial data stream and signaling a desired value of data rate or data package size. That signaled desired value of data rate or data package size is sent to either the data source or the data transmitter.

The final Office Action alleges the data source is the input connector 145 of Rider (final Office Action -- pg. 3). The final Office Action alleges the transmitter is output circuit 170, while the controller is processor circuit 110 of Rider (final Office Action -- pg. 3). Using these allegations, in order for Rider to anticipate the limitations of claim 8, the processor circuit 110 (alleged controller) must control a serial data stream from input connector 145. Secondly, processor circuit 110 must signal a desired value of data rate or data package size to the input connector 145 (alleged data source) output circuit 170 (alleged transmitter).

As for any control upon input connector 145, that control comes from, for example, a personal computer -- not the processor circuit 110 (Rider -- col. 9, lines 31-36). It is impossible for processor circuit 110 to control input connector 145 since input connector 145 is not designated as an output connector, and the serial communication is not bi-directional (Rider -- Fig. 6). As for any control imparted to output circuit 170 (alleged transmitter), the <u>exclusive</u> amount of control from processor circuit 110 is to determine whether the TX SIGNAL is to be sent within antenna 190 or connector 180 (Rider -- col. 10, line 3 – col. 12, line 45; Figs. 7-8). Specifically, Rider describes the output from SCI of processor circuit 110 sent to switch 177 of output circuit 170 (Rider -- col. 11, line 64 – col. 12, line 10; Fig. 7). Circuit 110 thereby sends digital data to switch 177 to either output the TX SIGNAL or ground, and also to control

whether the output from switches 178/179 are sent to antenna 190 or output connector 180 (Rider -- Fig. 8). Importantly, however, Rider does not describe signaling of a desired value of data rate or data package size to the alleged data transmitter (output circuit 170). The only signaling from the alleged controller (processor circuit 110) is that for control of a switch for outputting or enabling the TX frequency output, and deciding whether that output will be sent to antenna 190 or connector 180 -- certainly to signal a desired value of data rate or data package size as recited in present claim 8.

Rider does not disclose a decoder coupled to or within a receiver for converting a data rate or data package size of signals received by the receiver into the data rate or data package size generated by the data source. Dependent claim 12 recites that the system of independent claim 2 further comprises a decoder. The decoder is coupled to or included within the receiver for converting a data rate or data package size of the signals received by the receiver into the data rate or data package size generated by the data source.

The final Office Action alleges that processor circuit 210 or that device macro select 611 of Rider is equivalent to the decoder recited in claim 12 (final Office Action -- pg. 5). A decoder is well-known as something that takes a coded signal and decodes that signal back to its original form. In the context of claim 12, a decoder converts a data rate or data package size of signals received by the receiver back into the original data rate or data package size before they were converted or coded. Specifically, claim 12 describes decoding the data rate or data package size back to the data rate or data package size generated by the data source. The final Office Action alleges the data source is input connector 145 of Rider which inputs a serial input onto the alleged controller (processor circuit 110). In order for Rider to meet the requirements of claim 12, the alleged decoder (processor circuit 210 or device macro select 611) must take the data rate or data package size sent to receiver 200 by transmitter 170 and convert or decode that data rate or data package size back to the data rate or data package size of the serial input from connector 145. This contortion of Rider falls entirely outside the teachings of Rider. Not only is the serial input <u>not</u> the claimed data source having a data rate or data package size being converted, but the alleged decoder 210/611 of Rider does not decode back to the serial input since it is the TX frequency generated by synthesizer 150 that is transmitted -- not the serial input (Rider -- Fig. 6).

Absent any transmission of the serial input, it would be impossible to decode back to that serial input at a receiver as recited in present claim 12.

For at least the reasons stated above, independent claims 2 and 8, as well as claims dependent therefrom are not anticipated by Rider.

2. Rejection of Claims 4 and 9-11

Claims 4 and 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider in view of Richley and Waters. Dependent claims 4 and 9-11 are believed patentably distinct over the cited references for at least the same reasons as base claims 2 and 8 discussed above.

3. Rejection of Claim 5

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Rider in view of Richley and Marchetto. Dependent claim 5 is believed patentably distinct over the cited references for at least the same reasons as base claim 2 discussed above.

* * *

For the foregoing reasons, it is submitted that the Examiner's rejection of and objection to pending claims 2 and 4-12 was erroneous, and reversal of the Examiner's decision is respectfully requested.

The Commissioner is hereby authorized to charge the required fee(s) or credit any overpayment to Daffer McDaniel, LLP deposit account number 50-3268.

Respectfully submitted,

/Kevin L. Daffer/
Kevin L. Daffer
Reg. No. 34,146
Attorney for Appellant

Customer No. 35617
Date: August 26, 2009

VIII. APPENDIX

The present claims on appeal are as follows.

2. A system for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints, wherein said first unit comprises:

a data source for generating a serial data stream;

a transmitter for generating electrical signals from said serial data stream from said data source;

a controller coupled between said data source and said transmitter for controlling said serial data stream by converting a data rate or data package size of said data source into a desired value of data rate or data package size, wherein said controller comprises:

means for storing data from the serial data stream; and

means for outputting the stored data to said transmitter in accordance with the desired value of data rate or data package size; and

a transmitter conductor array for conducting said electrical signals generated by said transmitter;

wherein said second unit comprises:

a receiving antenna for tapping electrical signals in the near field of said transmitter conductor array;

a receiver for receiving the signals tapped by said receiving antenna; and

a data sink for subsequent processing of the signals received by said receiver.

4. The system according to Claim 2, wherein the desired value is determined by a desired-value generator according to actual transmission characteristics of a data transmission path between said transmitter and said receiver.

5. The system according to Claim 2, further comprising an analyzer coupled between said receiver and said data sink, wherein said analyzer is configured for signaling incorrectly transmitted data to said controller by means of an additional transmission path, and wherein said controller is configured for repeating said incorrectly transmitted data packages upon request by said analyzer.

6. The system according to Claim 2, further comprising a micro controller coupled for controlling or diagnosing the system.

7. The system according to Claim 2, wherein the system is self-learning and adapts itself dynamically to respective conditions of operation.

8. A method of broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints, said method comprising:

generating a serial data stream from a data source on said first unit;

generating electrical signals from said serial data stream with a transmitter on said first unit;

controlling said serial data stream, with a controller on said first unit, by storing data from the serial data stream and signaling a desired value of data rate or data package size to said data source or said transmitter;

conducting said electrical signals generated by said transmitter with a transmitter conductor array on the first unit;

tapping electrical signals in the near field of said transmitter conductor array with a receiving antenna on said second unit;

receiving the signals tapped by said receiving antenna at a receiver on said second unit; and

processing the signals received by said receiver in a data sink on said second unit.

9. The method according to Claim 8, wherein prior to said step of controlling, the method further comprises selecting the desired value of data rate or data package size in correspondence with actual transmission characteristics of a data transmission path between said transmitter and said receiver.

10. The method according to Claim 9, wherein said step of controlling the serial data stream comprises supplying the desired value of data rate or data package size to said transmitter.

11. The method according to Claim 10, wherein said step of controlling the serial data stream comprises storing data from the serial data stream if the desired data rate is lower than a rate at which the serial data stream is generated by the data source in said generating step.

12. The system according to Claim 2, further comprising a decoder coupled to or included within said receiver for converting a data rate or data package size of the signals received by said receiver into the data rate or data package size generated by said data source.

IX. EVIDENCE APPENDIX

No evidence has been entered during the prosecution of the captioned case.

X. <u>RELATED PROCEEDINGS APPENDIX</u>

No prior or pending appeals, interferences, or judicial proceedings are known to Appellant or Assignee which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.